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REMARKS

In the Office Action dated October 5, 2004, claims 1-27 are pending. Claims 1, 24, and 26 are independent claims from which all other claims depend therefrom. Claims 1, 24, and 26 have been amended. Note that claims 1, 24, and 26 have not been amended for patentability reasons, but rather for clarification reasons.

Claims 1-2 and 7-27 stand rejected under 35 U.S.C. 102(b) as being anticipated by Akgun et al. (USPN 5,596,303).

Claims 1, 24, and 26 have similar limitations and are therefore described together. Claims 1, 24, and 26 recite magnetic resonance imaging systems that each includes a superconducting magnet and a gradient coil assembly. The superconducting magnet generates a static magnetic field. The gradient coil assembly has an associated patient bore enclosure that includes a gradient coil, which generates a gradient magnetic field. The gradient coil assembly also includes a static field-shaping coil that resides between the gradient coil and the patient bore enclosure and supplements the static magnetic field.

The use and inclusion of static field-shaping coils within a gradient coil assembly allows for increased field strength due to the radial proximity of the static field shaping coil relative to the patient bore as compared to the radial proximity of the superconducting magnet and the gradient coil. The location of the field-shaping coil affects and is related to the size of the superconducting magnet and the size of the field-shaping coil. In general, the closer the field-shaping coil is to the patient bore the increased field strength provided, which allows for the use of a superconducting magnet and of a field-shaping coil that are of decreased size. As a result of the increased field strength and reduced size in the superconductive magnet and the field-shaping coil, static magnet field uniformity is increased and stray fields and the generation of eddy currents is minimized.

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Akgun discloses a superconductive magnet system that includes superconducting coils 8 and 9, within a nitrogen vessel 3, surrounding an imaging volume 7. Gradient coils 6 surround the imaging volume within the nitrogen vessel 3 and the imaging volume 7. High temperature superconducting coils 10 reside within the nitrogen vessel 3 between the superconductive coils 8 and 9 and the gradient coils 6.

Although Akgun discloses the use of high temperature superconductive coils 10 in addition to the use of superconductive coils 8 and 9, Akgun fails to teach or suggest the use of correction coils within a gradient coil assembly, and especially not within a gradient coil. The high temperature superconductive coils 10 of Akgun are located outside of the gradient coils 6, whereas the field-shaping coil of the present invention are located inside the gradient coil. Positioning of the field-shaping coil of the present invention within the gradient coil and between the gradient coil and the patient bore provides the above-stated advantages.

In order for a reference to anticipate a claim the reference must teach or suggest each and every element of that claim, see MPEP 2131 and *Verdegrad Bros. V. Union Oil Co. of California*, 814 F.2d 628. Thus, since each and every element of claims 1, 24, and 26 are not taught or suggested by Akgun, Applicant submits that claims 1, 24, and 26 are novel, nonobvious, and are in a condition for allowance. Also, since claims 2, 7-23, 25, and 27 depend from claims 1, 24, and 26, respectively, they are also novel, nonobvious, and are in a condition for allowance.

Claims 3-6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Akgun as applied to claim 1 and further in view of Joseph (USPN 6,456,076).

Applicant submits that since claim 1 is novel, nonobvious, and is in a condition for allowance and since claims 3-6 depend from claim 1, that claims 3-6 are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

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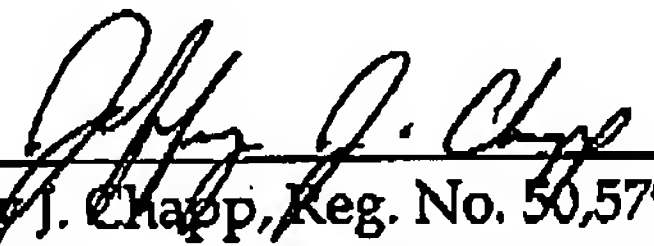
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In light of the amendments and remarks, Applicant submits that all of the rejections are now overcome. The Applicant has added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,

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